

WHAT IS CLAIMED IS:

1. An aerial dispersant holding tank configured as a pseudo cargo container and comprising a first flow opening, said first flow opening being configured for flow of dispersant material during aerial dispersement of said dispersant material.
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2. The aerial dispersant holding tank of claim 1, wherein said first flow opening is configured to sealably mate with a flow opening of a second aerial dispersant holding tank to provide a dispersant material flow path from said aerial dispersant holding tank to said second aerial dispersant holding tank.
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3. The aerial dispersant holding tank of claim 2, wherein said aerial dispersant holding tank is configured as a pseudo cargo container that is compatible with a side-loading aircraft cargo system.
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4. The aerial dispersant holding tank of claim 3, wherein said first flow opening is disposed on a first end of said aerial dispersant holding tank, and wherein said aerial dispersant holding tank further comprises a second flow opening disposed on a second end of said aerial dispersant holding tank, said second flow opening being configured to sealably mate with a flow opening of a third aerial dispersant holding tank.
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5. The aerial dispersant holding tank of claim 2, wherein said first flow opening is configured to sealably mate with a flow opening of said second aerial dispersant holding tank when said aerial dispersant tank and said second aerial dispersant tank are positioned in adjacent end-to-end relationship within the baggage or cargo hold of a host aircraft.
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6. The aerial dispersant holding tank of claim 1, further comprising flow control equipment configured to control flow of materials through said first flow opening.

5 7. The aerial dispersant holding tank of claim 1, further comprising at least one tank dividers disposed within said holding tank to separate the interior of said holding tank into two separate holding compartments.

10 8. An aerial dispersion system configured for use with a host aircraft, comprising:

one or more aerial dispersant holding tanks configured as pseudo cargo containers;

15 a dispersal regulator configured to be coupled to said one or more aerial dispersant holding tanks; and

an airborne dispersal device configured to be coupled to said dispersal regulator.

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9. The aerial dispersion system of claim 8, wherein said aerial dispersant holding tanks are configured as pseudo cargo containers that are compatible with a side-loading aircraft cargo system.

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10. The aerial dispersion system of claim 8, wherein said aerial dispersant holding tanks are configured as pseudo cargo containers that are configured for installation and removal from an aircraft passenger compartment.

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11. The aerial dispersion system of claim 8, wherein each of said aerial dispersant holding tanks comprises at least one flow opening on a first end of said holding tank, said first flow opening being configured to sealably mate with a flow opening of an adjacent aerial dispersant holding tank when two or more of said aerial dispersant tanks are 5 positioned in adjacent end-to-end relationship within the baggage or cargo hold of a host aircraft.

12. The aerial dispersion system of claim 8, wherein a first one of said aerial dispersant holding tanks is configured to be coupled to at least a second one of said aerial dispersant holding tanks to provide a dispersant material flow path from said first aerial dispersant holding tank to said second aerial dispersant holding tank when said first and second aerial dispersant tanks are positioned in adjacent end-to-end relationship within the baggage or cargo hold of a host aircraft.

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13. The aerial dispersion system of claim 8, wherein said dispersal regulator comprises at least a part of a dispersal equipment container or a dispersal equipment pallet.

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14. The aerial dispersion system of claim 8, wherein said dispersal regulator comprises a pump.

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15. The aerial dispersion system of claim 12, wherein at least one of said first or second aerial dispersant tanks comprises flow control equipment configured to control flow of materials from said first aerial dispersant holding tank to said second aerial dispersant holding tank.

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16. The aerial dispersion system of claim 8, further comprising a pseudo-cargo door; and wherein said airborne dispersal device is configured to be coupled to said dispersal regulator through said pseudo cargo door.

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17. The aerial dispersion system of claim 8, further comprising a pseudo-passenger door; and wherein said airborne dispersal device is configured to be coupled to said dispersal regulator through said pseudo passenger door.

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18. The aerial dispersion system of claim 8, wherein said one or more aerial dispersant holding tanks comprise a material containment subsystem; wherein said dispersal regulator comprises a material dispersal subsystem; and wherein said aerial dispersion system further comprises a control subsystem configured to be coupled to said material containment subsystem and said material dispersal subsystem.

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19. The aerial dispersion system of claim 18, further comprising a navigation subsystem, a communications subsystem, and a sensor subsystem; wherein said navigation subsystem, communications subsystem, and sensor subsystem are configured to be coupled to said control subsystem; and wherein said control subsystem, said navigation subsystem and said communications subsystem are configured to be coupled to one or more systems of a host aircraft.

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20. A method of converting a host aircraft for aerial dispersion purposes, comprising removably installing the aerial dispersion system of claim 8 on a host aircraft.

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21. An aerial dispersion method, comprising removably installing the aerial dispersion system of claim 8 on a host aircraft to form an aircraft-based material

dispersion system; and aerially dispersing a material from said aircraft-based material dispersion system.

5 22. An aircraft-based material dispersion system, comprising:

 a host aircraft;

 one or more aerial dispersant holding tanks disposed within said host aircraft, said

10 aerial dispersant holding tanks being configured as pseudo cargo containers;

 a dispersal regulator disposed on said host aircraft and coupled to said one or more aerial dispersant holding tanks; and

15 an airborne dispersal device disposed on said host aircraft and coupled to said dispersal regulator.

20 23. The aircraft-based material dispersion system of claim 22, wherein said host aircraft has a side-loading cargo system; and wherein said one or more aerial dispersant holding tanks are configured as pseudo cargo containers that are removably disposed within a baggage or cargo hold of said host aircraft using said side-loading cargo system of said host aircraft.

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24. The aircraft-based material dispersion system of claim 22, wherein said host aircraft has at least one passenger door for access to a passenger compartment of said aircraft; and wherein said one or more aerial dispersant holding tanks are configured as

30 pseudo cargo containers that are removably disposed within a passenger compartment of said host aircraft through said passenger door.

25. The aircraft-based material dispersion system of claim 23, wherein said system
comprises two or more of said aerial dispersant holding tanks coupled together and
5 removably disposed in adjacent end-to-end relationship within said baggage or cargo
hold of said host aircraft.

10 26. The aircraft-based material dispersion system of claim 24, wherein said system
comprises two or more of said aerial dispersant holding tanks coupled together and
removably disposed in adjacent end-to-end relationship within said passenger
compartment of said host aircraft.

15 27. The aircraft-based material dispersion system of claim 25, further comprising
flow control equipment coupled to at least one of said aerial dispersant holding tanks and
configured to control flow of materials between two or more of said aerial dispersant
holding tanks.

20 28. The aircraft-based material dispersion system of claim 25, further comprising a
pseudo-cargo door removably disposed within a cargo opening of said host aircraft; and
wherein said airborne dispersal device is coupled to said dispersal regulator through said
pseudo cargo door.

25 29. The aircraft-based material dispersion system of claim 26, further comprising a
pseudo-passenger door removably disposed within a passenger door opening of said host
aircraft; and wherein said airborne dispersal device is coupled to said dispersal regulator
30 through said pseudo cargo door.

30. The aircraft-based material dispersion system of claim 23, wherein said dispersal regulator and said airborne dispersal device are removably installed on said host aircraft.

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31. The aircraft-based material dispersion system of claim 22, wherein said one or more aerial dispersant holding tanks comprise a material containment subsystem; wherein said dispersal regulator comprises a material dispersal subsystem; and wherein said aerial dispersion system further comprises a control subsystem coupled to said material containment subsystem and said material dispersal subsystem.

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32. The aircraft-based material dispersion system of claim 31, further comprising a navigation subsystem, a communications subsystem, and a sensor subsystem; wherein said navigation subsystem, communications subsystem, and sensor subsystem are coupled to said control subsystem; and wherein said control subsystem, said navigation subsystem and said communications subsystem are coupled to one or more systems of said host aircraft.

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33. An aerial dispersion method, comprising aerially dispersing one or more materials from the aircraft-based material dispersion system of claim 22.

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34. An aerial dispersion method, comprising aerially dispersing one or more materials in a coordinated manner from a fleet of aircraft-based material dispersion systems of claim 22.

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35. The aircraft-based material dispersion system of claim 22, wherein said host aircraft comprises a wide body aircraft.

36. A method of converting at least one host aircraft for aerial dispersion of material, comprising:

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removably disposing one or more aerial dispersant holding tanks within at least one host aircraft, said aerial dispersant holding tanks being configured as pseudo cargo containers;

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removably disposing a dispersal regulator on said host aircraft; said dispersal regulator being coupled to said one or more aerial dispersant holding tanks; and

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removably disposing an airborne dispersal device on said host aircraft, said airborne dispersal device being coupled to said dispersal regulator.

37. The method of claim 36, wherein said host aircraft has a side-loading cargo system; wherein said one or more aerial dispersant holding tanks are configured as pseudo cargo containers; and wherein said method comprises loading said one or more aerial dispersant holding tanks into a baggage or cargo hold of said host aircraft using said side-loading cargo system of said host aircraft.

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38. The method of claim 36, wherein said host aircraft has at least one passenger door for access to a passenger compartment of said aircraft; wherein said one or more aerial dispersant holding tanks are configured as pseudo cargo containers; and wherein said method comprises loading said one or more aerial dispersant holding tanks into said passenger compartment of said host aircraft through said at least one passenger door of said host aircraft.

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39. The method of claim 37, further comprising loading two or more of said aerial dispersant holding tanks into said baggage or cargo hold of said host aircraft using said side-loading cargo system of said host aircraft; and disposing said two or more of said 5 aerial dispersant holding tanks in adjacent and coupled end-to-end relationship within said baggage or cargo hold of said host aircraft.

40. The method of claim 38, further comprising loading two or more of said aerial dispersant holding tanks into said passenger compartment of said host aircraft through 10 said passenger door of said host aircraft; and disposing said two or more of said aerial dispersant holding tanks in adjacent and coupled end-to-end relationship within said passenger compartment of said host aircraft.

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41. The method of claim 39, further comprising removably disposing a pseudo-cargo door within a cargo opening of said host aircraft; and wherein said airborne dispersal device is coupled to said dispersal regulator through said pseudo cargo door.

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42. The method of claim 40, further comprising removably disposing a pseudo-passenger door within a passenger door opening of said host aircraft; and wherein said airborne dispersal device is coupled to said dispersal regulator through said pseudo passenger door.

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43. The method of claim 36, wherein said one or more aerial dispersant holding tanks comprise a material containment subsystem; wherein said dispersal regulator comprises a material dispersal subsystem; and wherein said method further comprises removably 30 disposing a control subsystem on said host aircraft, said control subsystem being coupled to said material containment subsystem and said material dispersal subsystem.

44. The method of claim 36, wherein said host aircraft comprises a wide body aircraft.

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45. The method of claim 36, further comprising aerially dispersing one or more materials from said airborne dispersal device.

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46. The method of claim 36, wherein said at least one host aircraft comprises a fleet of two or more host aircraft; and wherein said method further comprises aerially dispersing one or more materials in a coordinated manner from said fleet of host aircraft.

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47. An aerial dispersant holding tank for use within a passenger compartment of a host aircraft, said aerial dispersant holding tank being configured to be removably installed within said passenger compartment through a passenger door of said aircraft.

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48. An aerial dispersion system comprising at least one aerial dispersant holding tank of claim 47; and further comprising:

a dispersal regulator configured to be coupled to said one or more aerial dispersant holding tanks; and

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an airborne dispersal device configured to be coupled to said dispersal regulator.

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49. The aerial dispersion system of claim 48, further comprising a pseudo-passenger door; and wherein said airborne dispersal device is configured to be coupled to said dispersal regulator through said pseudo passenger door.

50. An aircraft-based material dispersion system, comprising said aerial dispersion system of claim 48 and further comprising a host aircraft;

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wherein said at least one aerial dispersant holding tank is disposed within a passenger compartment of said host aircraft;

10 a dispersal regulator disposed on said host aircraft and coupled to said at least one aerial dispersant holding tank; and

an airborne dispersal device disposed on said host aircraft and coupled to said dispersal regulator.

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51. The aircraft-based material dispersion system of claim 50, further comprising at least one aerial dispersant holding tank disposed within a baggage or cargo hold of said host aircraft, said at least one aerial dispersant holding tank disposed within a baggage or cargo hold of said host aircraft being coupled to said at least one aerial dispersant holding tank disposed within said passenger compartment of said host aircraft.

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